DOCUMENT RESUME

ED 445 534 FL 026 408

AUTHOR El-Koumy, Abdel Salam A.
TITLE Differences in FL Reading Comprehension among High-, Middle-, and Low-Ambiguity Tolerance Students.
PUB DATE 2000-03-00
NOTE 14p.; Paper presented at the National Symposium on English Language Teaching in Egypt, (Ain Shams University, March 21-23, 2000).
PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS College Students; *English (Second Language); Foreign Countries; Higher Education; Learning Strategies; *Psycholinguistics; *Reading Comprehension; Second Language Instruction; Second Language Learning; Testing
IDENTIFIERS *Ambiguity Tolerance; Egypt

ABSTRACT

The purpose of this study was to examine the differences in foreign language reading comprehension among high-, middle-, and low-ambiguity tolerance students. The subjects for the study were 150 English-as-a-Foreign-Language (EFL) university students randomly drawn from all freshmen enrolled in the English section at four schools of education in Egypt. Data required by the study were obtained by using two measures: the MAT-50 (Morton, 1975) and a reading comprehension subtest of the Test of English as a Foreign Language (TOEFL). The data were analyzed using one-way analysis of variance and a t-test. Results showed a significant variance in the mean scores among the high-, middle-, and low ambiguity tolerance groups. The t-tests revealed that the moderate ambiguity tolerance group scored significantly higher than the low and high groups, and the low and high groups were not found to be significantly different. A relationship may exist between ambiguity tolerance and learning strategies--high-, middle-, and low ambiguity tolerance students may exhibit different learning strategies that could, in turn , lead to different rates of language learning success. Based on these results, it is recommended that EFL students be helped to become moderate ambiguity tolerant students. Three tables and 26 references are included. (Author/KFT)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 445 534

Differences in FL reading comprehension among high-, middle-, and low-ambiguity tolerance students*

Abdel Salam A. El-Koumy
Suez Canal University, Egypt

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.
Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

El-Koumy

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

Abstract

The purpose of this study was to examine the differences in FL reading comprehension among high-, middle-, and low-ambiguity tolerance students. The subjects for the study were 150 EFL students randomly drawn from all freshmen enrolled in the English section at four schools of education in Egypt. The data required for the study were obtained by using two measures: (1) the MAT-50 (Norton, 1975), and (2) a reading comprehension subtest of the TOEFL. The obtained data were analyzed using the one-way analysis of variance and the t-test. Results of the ANOVA showed a significant difference in the mean scores among the high-, middle-, and low-ambiguity tolerance groups ($f = 9.56$, $p < 0.05$). Analyses of the data using independent t-tests indicated that the moderate ambiguity tolerance group scored significantly higher than the low and high ambiguity tolerance groups ($t = 4.22$, $p < 0.05$; $t = 3.24$, $p < 0.05$, respectively). The low and high ambiguity tolerance groups, however, were not found to be significantly different ($t = 0.89$, $p > 0.05$). Based on these results, recommendations were made for helping EFL students become moderate ambiguity tolerants.

Purpose of the study

The purpose of this study was to examine the differences in FL reading comprehension among high-, middle-, and low-ambiguity tolerance students at the university level.

*This paper was presented at the 20th National Symposium on English Language Teaching in Egypt, Ain Shams University, The Center for Developing English Language Teaching, 21-23 March 2000.

FL 026 408

BEST COPY AVAILABLE

Need for the study

The idea of this study arose from the researcher's awareness that some Egyptian EFL students panic and give up quickly when they independently read a passage containing some difficult words. Furthermore, cries and complaints are usually heard when a reading comprehension test, that contains some difficult words, is administered to those students. In contrast, other students tend to be wishy-washy and do not pay attention to difficulties or confusing facts (e.g., homophones, homographs) in what they read. Still others tend to be calm and open-minded in dealing with difficulties and confusing facts when they read. Hopefully, the findings of this study might reveal whether or not such behaviors influence FL reading comprehension.

Background to the study

Ambiguity is one of the main characteristics of a second/foreign language learning situation in general (Brown, 1987; Chapelle and Roberts, 1986; Groebel, 1985; Karpf, 1980; Peng, 1990; Taha, 1983).Chapelle and Roberts (1986), for example, wrote:

> An L2 situation can be considered ambiguous because of the characteristics it shares with each of the four kinds of ambiguous situations. An L2 situation is considered "novel" by learners because the grammatical, lexical, phonological and cultural cues are unfamiliar and therefore insufficient for them to construct a meaningful interpretation. On the other hand, these cues may be perceived as being too numerous to interpret, resulting in a "complex" situation. Similarly, a learner may interpret these multiple language cues as contradicting each other, rendering the situation "insoluble." Also, because language cues in many cases cannot be interpreted by the learner, the situation can be perceived "unstructured." (p. 31)

In light of the above, many second/foreign language learning theoreticians and applied psycholinguists (e.g., Ehrman and Oxford, 1989, 1990; Hahn, 1989; Larsen-Freeman and Long, 1991; Oxford, 1990a, 1990b; Oxford and Ehrman, 1993; Reiss, 1981; Rubin and Thompson, 1982; Scarcella and Oxford, 1992; Stern, 1975) claim that successful language learning necessitates a degree of ambiguity tolerance. Furthermore, ambiguity tolerance is considered by both students and teachers as one of the personality factors that characterize the good language learner (Reiss, 1985; Lalonde, Lee and Gardner, 1987). Reiss (1985) found that students who considered themselves good language learners viewed tolerance of ambiguity as important to them. She concluded that the good language learner is one who is, among other things, "fairly comfortable with ambiguity" (p. 518). In their investigation of teachers' perceptions of the successful second language student, Lalonde, Lee, and Gardner (1987) found that a group of teachers (N = 300) perceived the good language student as one who is, among other characteristics, tolerant of ambiguity.

As part of a second/foreign language learning situation, reading is also fraught with uncertainty (Bartholomae and Petrosky, 1986; Clarke and Nation, 1980; Ruddell, 1991, Weaver, 1993). The foreign language learners seldom know the meanings of all words in a reading passage. They also face phonological, syntactic, semantic and cultural ambiguities in what they read. Therefore, some reading theoreticians and practitioners (e.g., Joycey, 1984; Loew, 1984) view ambiguity tolerance as an important characteristic of the good language reader.

With the above in mind, it seems that ambiguity tolerance is a prominent characteristic in second/foreign language learning in general and reading in particular, and that this variable deserves to be studied in its own right.

Review of related research

In reviewing the research related to the problem under investigation, the researcher found only three studies that investigated the relationship between ambiguity tolerance and achievement in SL/FL in general, or in certain language tasks in particular. Using Budner's Scale of Tolerance-Intolerance of Ambiguity with a group of high school students learning French as a foreign language, Naiman et al. (1978) found that tolerance of ambiguity scores were significantly correlated with scores on a listening comprehension task and an imitation task. Chapelle (1983) (see also Chapelle and Roberts, 1986) used Norton's (1975) Measure of Ambiguity Tolerance (MAT-50) and a group of subjects from different language backgrounds (Arabic, Japanese, and Spanish) to explore the relationship between ambiguity tolerance and success in learning English as a second language. The results of her study indicated no significant correlations between ambiguity tolerance and beginning of semester language scores but the correlations between ambiguity tolerance and end-of-semester scores were, in almost every case, significantly positive. She found that ambiguity tolerance was positively related to end-of-semester scores on a multiple choice grammar test, a dictation test, and parts of a speaking test. She concluded that "an individual's AT is related to his progress in some aspects of L2 learning" (p. 94). Lori (1990) investigated the relationships that exist among ambiguity tolerance, self-concept, English achievement, Arabic achievement, overall school achievement, and students' attitudes toward learning English as a foreign language. He collected data from 280 high school seniors enrolled in 13 high schools in Bahrain. He measured their tolerance of ambiguity by using the MAT-50 (Norton, 1975). The results of the data analyses indicated that tolerance of ambiguity correlated significantly but very low with English achievement ($r = 0.14$), Arabic achievement ($r = 0.18$), self-concept ($r = 0.11$), and overall school achievement ($r = 0.16$). The results also showed that tolerance of ambiguity correlated significantly low with attitudes toward learning English as a foreign language($r = 0.36$).

As noted earlier, none of the previous studies specifically addressed ambiguity tolerance and SL/FL reading comprehension. The present study, therefore, attempts to fill this gap by exploring the differences in FL reading comprehension among high-, middle-, and low-ambiguity tolerance students at the university level.

Research hypothesis

In light of the foregoing, the hypothesis of the study was stated in the null form as follows: There would be no significant differences in the mean scores on a TOEFL reading comprehension subtest among the high-, middle-, and low-ambiguity tolerance groups.

Method

Sample

A total of 150 students representing three levels of ambiguity tolerance took part in the study. These subjects were randomly selected from all freshmen (N = 260) enrolled in the department of English at four schools of education in Egypt (Al-Arish, Ismailia, Port-Said, and Suez) in the 1999/2000 academic year. All subjects were taught the same textbooks at the pre-university level for the same period of time (6 years). All received reading instruction with the same approach. Table 1 below shows the number of males and females by ambiguity tolerance level.

Table 1
Number of Males and Females by Ambiguity Tolerance Level

AT Level	Male	Female	Total
HAT	6	44	50
MAT	7	43	50
LAT	5	45	50
TOTAL	18	132	150

AT = Ambiguity tolerance
HAT = High ambiguity tolerance
MAT= Middle Ambiguity tolerance
LAT = Low Ambiguity tolerance

Instruments

The instruments used in the study were: (1) the MAT-50 (Norton, 1975), and (2) a reading comprehension subtest of the TOEFL. A brief description of each instrument is given below.

The MAT-50 is a 61 item Likert-type scale which asks subjects to agree or disagree with each item on a 7 point scale. For example, item 25 is:

A problem has little attraction for me if I don't think it has a solution.

YES! YES yes ? no NO NO!

This scale is a highly reliable measure and a valid test of ambiguity tolerance. The numerous validity and reliability studies conducted on this instrument showed that it had an internal reliability coefficient of .88 and a test-retest reliability of .86 over a 10 to 12 week period. A content analysis of this instrument and a subjective analysis of 20 judges also showed adequate content validity. Furthermore, a cluster analysis of this scale and a correlational study on commitment provided good evidence for construct validity (Norton, 1975).

The TOEFL reading comprehension subtest (Model Test 2) consists of five reading passages with 10 questions for each (Sharpe 1996).

Description of variables

The independent variable in the study was ambiguity tolerance with three levels (high, middle, and low). Each subject was classified according to his/her ambiguity tolerance level, as defined and operationalized by Norton (1975) in the following way: Any subject with a score greater than one standard deviation from the mean on the MAT-50 was defined as a high ambiguity tolerance subject (HAT); any subject with a score less than one standard deviation from the mean was defined as a low ambiguity tolerance subject (LAT); and any subject with a score within half

a standard deviation from the mean was defined as a middle ambiguity tolerance subject (MAT).

The dependent variable in the study was FL reading comprehension as measured by a reading comprehension subtest of the TOEFL.

To neutralize extraneous variables, one person, the researcher, administered both instruments to all groups in the same manner. The testing time was also identical for each of the three groups of the study.

Procedure

At the beginning of the first semester of the 1999/2000 academic year, the data required for the study were collected at times convenient to the learners. The MAT-50 was administered to a total of 260 students. From this population, twelve students were eliminated because they did not properly complete their own questionnaires. The remaining students were then stratified into three groups with three ambiguity tolerance levels (high, middle, and low). From each group, a random selection of 50 subjects was made to participate in the study. After that, a reading comprehension subtest of the TOEFL was administered to the final sample. Finally, the data collected were analyzed using the one-way analysis of variance and the t-test.

Data analysis

All statistical tests were carried out using the Statistical Package for Social Sciences (SPSS) (Norusis, 1993).

Table 2
ANOVA showing the differences in reading comprehension among the three ambiguity tolerance groups

Source	DF	SS	MS	F	Significance
Between Groups	2	187.25	93.63	9.56	
Within Groups	147	1439.52	9.79		$p < 0.05$
Total	149	1626.77			

As shown in Table 2, the ANOVA results showed a significant difference in reading comprehension scores among the high-, middle-, and low-ambiguity tolerance groups ($f = 9.56$, $p < 0.05$). Therefore, three subsequent t-tests were employed to compare the mean scores of each two groups with the level of significance set at $p < 0.05$.

Table 3
The mean difference for each two groups

Group	N	M	S. D.	t-value
MAT	50	23.40	3.08	4.22
LAT	50	20.80	3.09	
MAT	50	23.40	3.08	3.24
HAT	50	21.36	3.22	
LAT	50	20.80	3.09	0.89
HAT	50	21.36	3.22	

Data from Table 3 indicated that the middle ambiguity tolerance group scored significantly higher than the low and high ambiguity tolerance groups ($t = 4.22$, $p < 0.05$; $t = 3.24$, $p < 0.05$, respectively). The results also indicated no significant difference between the low and high ambiguity tolerance groups ($t = 0.89$, $p > 0.05$). Thus, the null hypothesis that there would be no significant

differences in FL reading comprehension among students with different levels of ambiguity tolerance could be rejected.

Discussion of findings

The findings of this study support Brown's (1987:90), Oxford's (1990b:142), and Scarcella and Oxford's (1992: 59) contention that a moderate degree of ambiguity tolerance is essential for the second/foreign language learning process and much or little ambiguity tolerance may hinder this process. The findings are also consistent with those of previous studies in the areas of anxiety (Backman, 1976) and risk-taking (Beebe, 1983). Backman (1976) found that the two worst English-learning Spanish speakers scored the highest and the lowest on the anxiety measure she utilized. Beebe's (1983) study revealed that "persons with a high motivation to achieve are ... moderate, not high, risk-takers" (p. 41). As ambiguity tolerance seems to be closely related to anxiety (Kishore and Pandey, 1980) and risk-taking (Oxford, 1990b), the findings of this study can be interpreted in light of the relationships among these factors; that is, the high-, middle-, and low-ambiguity tolerance levels might interact in a complex way with the same levels of anxiety and risk-taking to produce the results obtained in the present study. The findings of this study can also be explained in light of the relationship that may exist between ambiguity tolerance and learning strategies; that is, the high-, middle-, and low-ambiguity tolerance readers might exhibit different reading strategies, which could, in turn, lead to the obtained results.

Implications for instruction

On the basis of the results of the present study, one can conclude that a moderate degree of ambiguity tolerance is essential for foreign language reading comprehension and much or little ambiguity tolerance hinders this process. Therefore, EFL teachers must take this variable into account, above all, they should help students develop a moderate degree of ambiguity tolerance through the following: (1) Creating classroom atmospheres in which low ambiguity tolerance students can make

moderate risks without fear of failure, or criticism from the teacher, or other students. (2) Tolerating less important errors made by low ambiguity tolerance students. (3) Making high and low ambiguity tolerance students aware of the clues for intelligent guessing. (4) Training high and low ambiguity tolerance students in compensation strategies. (5) Discussing fears of ambiguity with low ambiguity tolerance students so as to deliberately draw their attention to the fact that such fears are rootless and useless. (6) Asking high, middle, and low ambiguity tolerance students to cooperate in writing about ambiguous situations inside and outside of the classroom, and in synthesizing and evaluating literary works that depict ambiguous situations.

Recommendations for future research

This study suggests the need for investigating the relationships among anxiety, risk-taking, tolerance of ambiguity, and second/foreign language proficiency. Future research is also needed to determine the regresses or increases of EFL students' tolerance of ambiguity over a long period of time in a longitudinal study. It is also recommended that future research should consider the relationships among different levels of ambiguity tolerance and different levels of cognitive language operations. Finally, it is recommended that the present study should be replicated with students at different grade levels.

References

Backman, N. (1976). Two measures of affective factors as they relate to progress in adult second language learning. *Working Papers in Bilingualism*, 10: 100-122.

Bartholomae, D. and Petrosky, A. (1986). *Facts, Artifacts, and Counterfacts: A Reading and Writing Course*. Upper Montclair, NJ: Boynton/Cook.

Beebe, L. M. (1983). Risk-taking and the language learner. In Herbert W. Seliger and Michael H. Long (Eds.), *Classroom-Oriented Research in Second Language Acquisition* (pp. 39-65). Rowley, MA: Newbury House.

Birckbichler, D. W. and Omaggio, A. C. (1978). Diagnosing and responding to individual learner needs. *Modern Language Journal*, 62: 336-345.

Brown, H. D. (1987). *Principles of Language Learning and Teaching*. 2nd Edition. Englewood Cliffs, NJ: Prentice-Hall.

Budner, S. (1962). Intolerance of ambiguity as a personality variable. *Journal of Personality*, 30: 29-50.

Chapelle, C. A. (1983). The relationship between ambiguity tolerance and success in acquiring English as a second language in adult learners. Unpublished Ph.D. Dissertation, University of Illinois at Urbana-Champaign.

Chapelle, C. A. and Roberts, C. (1986). Ambiguity tolerance and field independence as predictors of proficiency in English as a second language. *Language Learning*, 36 (1): 27-45.

Clarke, D. F. and Nation, I. S. (1980). Guessing the meanings of words from context: Strategy and techniques. *System*, 8 (3): 211-220.

Ehrman, M. E. and Oxford, R. L. (1989).Effects of sex differences, career choice, and psychological type on adults' language learning strategies. *Modern Language Journal*, 73 (1): 1-13.

-------.(1990). Adult language learning styles and strategies in an intensive training setting. *Modern Language Journal*, 74 (3): 311-327.

Ely, C. (1986). An analysis of discomfort, risktaking, sociability, and motivation in the L2 classroom. *Language Learning*, 36 (1): 1-25.

-------.(1989). Tolerance of ambiguity and use of second language strategies. *Foreign Language Annals*, 22 (5): 437-445.

Groebel, L. (1985). Ambiguity and second language learning. *IRAL*, 23: 149-158.

Hahn, C. (1989). Dealing with variables in the language classroom. *English Teaching Forum*, 17 (4): 9-11, 19.

Joycey, E. (1984). Analyzing the reading process. *English Teaching Forum*, 22 (2): 25-31.

Karpf, A. (1986). The perception of ambiguity in second language learning. *IRAL*, 24 (2): 157-169.

Kishore, G. R. and Pandey, N. K. (1980). Sex, anxiety and intolerance of ambiguity. *Asian Journal of Psychology and Education*, 6: 1-3.

Lalonde, R. N., Lee, P. A. and Gardner, R. C. (1987). The common view of the good language learner: An investigation of the teachers' beliefs. *The Canadian Modern Language Review*, 44 (1): 16-34.

Larsen-Freeman, D. and Long, M. (1991). *An Introduction to Second Language Acquisition Research*. London: Longman.

Loew, H. Z. (1984). Developing Strategic reading skills. *Foreign Language Annals*, 17 (4): 301-303.

Lori, A. A. (1990). Self-concept, tolerance of ambiguity, English achievement, Arabic achievement and overall school achievement as factors contributing to Bahraini high school seniors' attitudes toward learning English as a foreign language. Unpublished Ph.D. Dissertation, Indiana University.

Naiman, N., Frohlich, M., Stern, H., and Todesco, A. (1978). *The Good Language Learner*. Toronto: Ontario Institute for Studies in Education.

Norton, R. W. (1973). Manifestations of ambiguity tolerance in verbal behavior. Unpublished Ph.D. Dissertation, University of Wisconsin.

------.(1975). Measurement of ambiguity tolerance. *Journal of Personality Assessment*, 39 (6): 607-619.

Norusis, M. J. (1993). *SPSS for Windows*. Chicago: SPSS, Inc.

Oxford, R. L. (1990a). Language learning strategies and beyond: A look at strategies in the context of styles. In S. S. Magnan (Ed.), *Shifting the Instructional Focus to the Language Learner* (pp. 35-55). Middlebury, VT: Northeast Conference on the Teaching of Foreign Languages.

------. (1990b). *Language Learning Strategies: What Every Teacher Should Know*. New York: Newbury House Publishers.

Oxford, R. and Ehrman, M. (1988). Psychological type and adult language learning strategies: A pilot study. *Journal of Psychological Type*, 16: 22-32.

------.(1993). Second language research on individual differences. *Annual Review of Applied Linguistics*, 13: 188-205.

Peng, L. H. (1990). Ambiguity and ESL students: A pilot experiment. *IRAL*, 28 (3): 248-256.

Reiss, M. (1981).Helping the unsuccessful language learner. *Modern Language Journal*, 65: 121-127.

------.(1985). The good language learner: Another look. *Canadian Modern Language Review*, 41 (3): 511-523.

Rubin, J. and Thompson, I. (1982). *How to Be a More Successful Language Learner.* Boston, Mass.: Heinle and Heinle Publishers.

Ruddell, M. R. (1991). Students' metacognitive response to ambiguous literacy tasks. *Reading Research and Instruction*, 31 (1): 1-11.

Scarcella, R. and Oxford, R. (1992). *The Tapestry of Language Learning: The Individual in the Communicative Classroom.* Boston, Mass.: Heinle and Heinle Publishers.

Stern, H. H. (1975). What can we learn from the good language learner? *Canadian Modern Language Review*, 31: 304-318.

Weaver,C. (1993).Reading Strategies: A discussion/demonstration with Connie Weaver. In Angela Carrasquillo and Carolyn Hedley (Eds.), *Whole Language and the Bilingual Learner* (pp. 87-106). Norwood, NJ: Ablex Publishing Co.